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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,993	09/26/2005	Michael A. Kraemer	58488US004	1419
32692	7590	05/13/2008	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			PIERRE LOUIS, ANDRE	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			2123	
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/550,993	Applicant(s) KRAEMER ET AL.
	Examiner ANDRE PIERRE LOUIS	Art Unit 2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 September 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449)
 Paper No(s)/Mail Date 06/16/2006
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. Claims 1-11 have been presented for examination.

Claim Objections

2. Claims 1, 3, 6-10 objected to because of the following informalities:

2.1 Claim 1 line 1-2, 8 recites “the three-dimensional shape”, there is no “three-dimensional shape” previously mentioned. Also, line 3 of the claim recites “the tooth stump”, no reference had been made to a tooth stump, previously. Furthermore, lines 4, 5, 6, 7, and 16, of the claim recite “the prosthesis”; however, reference has only been made to a dental prosthesis, previously (it would be better if written as “the dental prosthesis”). Line 13 of the claim recites “the user”, there is no user previously mentioned in the claim. Appropriate correction is required.

2.2 Line 2 of claim 3 recites “the outer surface”, it would be better if rewritten to say “an outer surface”. Appropriate correction is required.

2.3 Line 4 of claim 6 recites “the program”, no reference has been made to a program in the previous claim. Appropriate correction is required.

2.4 Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim depends from claim 1, however the statutory category has changed from a method to a data processing system and thus fails to further limit the preceding claim.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.1 Claims 5, 7-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims, as presented, are merely directed to software per se. The Examiner further notes that the data carrier of claim 11 can also be interpreted to be a signal bearing data carrier carrying a program. See **MPEP 2106**

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.0 Claims 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to the Examiner what the applicant is trying to claim; while the claim depends from claim 1, the statutory category has changed from a method to a data processing system and thus does not further limit the preceding claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

4.0 Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'brien et al. (U.S. Patent No. 6,915,178), in view of Duret et al. (U.S. Patent No. 4,663,720).

5.1 In considering the independent claim 1, O'Brien et al. substantially teaches a method for processing data regarding the three-dimensional shape of a dental prosthesis, the method comprising the steps of: a) providing input data which represent a three-dimensional surface of the tooth stump prepared for the prosthesis (*fig.1, col.2 lines 44-55*); b) providing stability requirements for the *prosthesis* (*fig.1, 5, col.4 line 14-col.5 line 22*); c) generating control data from said input data, said control data representing a control surface which meets the stability requirements (*col.2 line 44-col.3 line 11*); d) generating design data which represent the three-dimensional shape of the prosthesis (*col.2 line 44-col.3 line 3 and col.4 line 14-47*); and e) displaying the shape of the prosthesis together with the control surface on a monitor, wherein the design data are modified by the user based on a visual comparison of the displayed design data and the displayed control surface in order to meet the stability requirements, and the design of the prosthesis corresponding to the modified design data is displayed on the monitor together with the control surface (*fig.2-4, col.4 line 14-47 and col.2 line 44-col.3 line 11*). Although O'Brien et al. does specifically state that the generated data is a control data; one of ordinary skilled in the art would clearly appreciated the approach taken by O'Brien et al. in representing the surface used to accurately create and display the dental prosthesis (*see fig.1-2, col.4 line 14-col.4 line 22*). Nevertheless, Duret et al. substantially teaches generating a control data output using a numerical control unit and providing an interference check used to select a best fit shape and size (*see abstract, fig.7, also see col.6 line 17-44*). O'Brien et al. and Duret et al. are

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analogous art because they are from the same field of endeavor and that the method teaches by Duret et al. is similar to that of O'Brien et al. Therefore, it would have been obvious to one of ordinary skilled in the art to combine the dental prosthesis of Duret et al. with the dental prosthesis manufacturing of O'Brien et al. because Duret et al. teaches the advantage of high precision and speed in the production of the prosthesis (*see col.3 lines 19-28*).

5.2 With regards to claim 2, the combined teachings of O'Brien et al. and Duret et al. substantially teach that the design data are generated from the input data (*see O'Brien et al. col.4 line 4-47*).

5.3 As per claim 3, the combined teachings of O'Brien et al. and Duret et al. substantially teach the outer surface of the prosthesis is scaled differently in at least two spatial axes such that a given preparation margin remains thereby unchanged (*see O'Brien et al. fig.2-3, col.4 line 14-col.5 line 12; also see Duret et al. abstract*).

5.4 With regards to claim 4, the combined teachings of O'Brien et al. and Duret et al. substantially teach the control surface meets the stability requirements (*see O'Brien et al. fig.1-2, col.2 line 44-col.3 line 11; also see Duret et al. abstract*).

5.5 As per claim 5, the combined teachings of O'Brien et al. and Duret et al. substantially teach the steps are being performed using a computer program (*see fig.5 (24A), col.4 line 14-col.5 line 22*).

5.6 Regarding claim 6, the combined teachings of O'Brien et al. and Duret et al. substantially teach the data processing system for performing a method according to claim 1, comprising: (a) an input device for the data required in the method (*see O'Brien et al. fig.5 (28), also see Duret et al. fig.7 and 21*); (b) a central unit connected to the input device, the program for processing the data according to the method running on the central unit (*see O'Brien et al.*

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fig.5 (24 and 24A), also see Duret et al. fig.7 and 21); and (c) a display device connected to the central unit for the design of the prosthesis and the control surface (see O'Brien et al. fig.5 (30), also see Duret et al. fig.7 and 21).

5.7 With regards to claims 7-11, the combined teachings of O'Brien et al. and Duret et al. substantially teach the computer program being adapted to perform the method according to claim 1 (*see O'Brien et al. fig.5 (24A), also see Duret et al. fig.7 and 21*).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6.1 Rheinberber et al. (USPG_PUB No. 2001/0001510) teaches a method for manufacturing a dental prosthesis.

7. Claims 1-11 are rejected and this action is non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDRE PIERRE LOUIS whose telephone number is (571)272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. P. L/
Examiner, Art Unit 2123

May 07, 2008

/Paul L Rodriguez/
Supervisory Patent Examiner,
Art Unit 2123